

What is claimed is:

1. A perpendicular magnetic recording medium in which a perpendicular magnetic enhancement layer having a thickness of 15 nm or greater is deposited between a substrate and a perpendicular magnetic recording layer.

2. The perpendicular magnetic recording medium of claim 1, further comprising a perpendicular orientation promoting underlayer between the substrate and the perpendicular magnetic enhancement layer for promoting the perpendicular orientation of the perpendicular magnetic recording layer.

3. The perpendicular magnetic recording medium of claim 1 or 2, wherein the perpendicular magnetic enhancement layer is formed of at least one selected from the group consisting of Pt, Au, Pd and an alloy of these materials.

4. The perpendicular magnetic recording medium of claim 2, wherein the perpendicular orientation promoting underlayer is formed of Ti or a Ti alloy and has a thickness less than 10 nm.

5. The perpendicular magnetic recording medium of claim 1 or 2, wherein the perpendicular magnetic recording layer is formed of a CoCr alloy.

6. The perpendicular magnetic recording medium of claim 5, wherein the perpendicular magnetic recording layer further comprises at least one material selected from the group consisting of B, Pt, Ta, V, Nb, Zr, Y, and Mo.

7. The perpendicular magnetic recording medium of claim 1 or 2, further comprising a protective layer and a lubricant layer sequentially on the perpendicular magnetic recording layer.

8. The perpendicular magnetic recording medium of claim 1 or 2, wherein the perpendicular magnetic enhancement layer is formed of Pt and has a thickness no less than 15 nm.

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10. The perpendicular magnetic recording medium of claim 1 or 2, wherein  
8, wherein the perpendicular magnetic recording medium has a pseudo double-layer  
structure including a soft magnetic layer between the perpendicular orientation  
promoting underlayer and the perpendicular magnetic recording layer.

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$$\begin{aligned} \frac{\partial}{\partial t} \left( \frac{1}{\rho} \frac{\partial \rho}{\partial t} \right) &= \frac{1}{\rho} \frac{\partial^2 \rho}{\partial t^2} - \frac{1}{\rho^2} \left( \frac{\partial \rho}{\partial t} \right)^2 \\ \frac{\partial}{\partial t} \left( \frac{1}{\rho} \frac{\partial \rho}{\partial x} \right) &= \frac{1}{\rho} \frac{\partial^2 \rho}{\partial t \partial x} - \frac{1}{\rho^2} \left( \frac{\partial \rho}{\partial t} \right) \left( \frac{\partial \rho}{\partial x} \right) \\ \frac{\partial}{\partial x} \left( \frac{1}{\rho} \frac{\partial \rho}{\partial t} \right) &= \frac{1}{\rho} \frac{\partial^2 \rho}{\partial x \partial t} - \frac{1}{\rho^2} \left( \frac{\partial \rho}{\partial x} \right) \left( \frac{\partial \rho}{\partial t} \right) \\ \frac{\partial}{\partial x} \left( \frac{1}{\rho} \frac{\partial \rho}{\partial x} \right) &= \frac{1}{\rho} \frac{\partial^2 \rho}{\partial x^2} - \frac{1}{\rho^2} \left( \frac{\partial \rho}{\partial x} \right)^2 \end{aligned}$$